

Amendments to the Claims:

Please cancel Claims 1 – 23 and substitute the following therefor:

Listing of Claims:

1. – 23. (Canceled)

24. (New) A method for identifying an individual, the method comprising:
applying an incident optical spectral distribution to tissue of the individual;
measuring a response optical spectral distribution emanating from the tissue;
deriving a difference optical spectral distribution by performing a mathematical
operation on the response optical spectral distribution and a reference optical spectral
distribution; and
determining whether characteristics of the difference optical spectral distribution
are consistent with the individual being a person associated with the reference optical spectral
distribution.

25. (New) The method recited in claim 24 wherein the deriving and determining
steps are performed for a plurality of reference optical spectral distributions, each of which is
associated with a different person, whereby a determination is made whether the individual is
one of a set of persons.

26. (New) The method recited in claim 24 wherein the deriving and determining
steps are performed for a single reference optical spectral distribution associated with a
purported identity of the individual, whereby a determination is made whether the individual has
the purported identity.

27. (New) The method recited in claim 24 wherein the mathematical operation comprises calculation of a difference between the response optical spectral distribution and the reference optical spectral distribution.

28. (New) The method recited in claim 24 wherein the mathematical operation comprises calculation of a ratio between the response optical spectral distribution and the reference optical spectral distribution.

29. (New) The method recited in claim 24 wherein determining whether characteristics of the difference optical spectral distribution are consistent with the individual being a person associated with the reference optical spectral distribution comprises analyzing the difference optical spectral distribution with a database having a plurality of intra-person difference spectra for a person associated with the reference optical spectral distribution.

30. (New) The method recited in claim 24 wherein determining whether characteristics of the difference optical spectral distribution are consistent with the individual being a person associated with the reference optical spectral distribution comprises analyzing the difference optical spectral distribution with a database having a plurality of inter-person difference spectra.

31. (New) The method recited in claim 24 wherein determining whether characteristics of the difference optical spectral distribution are consistent with the individual being a person associated with the reference optical spectral distribution comprises analyzing the difference optical spectral distribution with a database having a plurality of intra-person and inter-person difference spectra.

32. (New) The method recited in claim 24 wherein determining whether characteristics of the difference optical spectral distribution are consistent with the individual being a person associated with the reference optical spectral distribution comprises performing a

discriminant analysis to compare underlying spectral shapes of the difference optical spectral distribution with the reference optical spectral distribution.

33. (New) A system for identifying an individual, the system comprising:
an optical source adapted to apply an incident optical spectral distribution to tissue of the individual;
a spectrometer adapted to measure a response optical spectral distribution emanating from the tissue; and
a computational device in communication with the spectrometer and having a program with computer-readable instructions for:
deriving a difference optical spectral distribution by performing a mathematical operation on the response optical spectral distribution and a reference optical spectral distribution; and
determining whether characteristics of the difference optical spectral distribution are consistent with the individual being a person associated with the reference optical spectral distribution.

34. (New) The system recited in claim 33 wherein the instructions for deriving and determining are executed for a plurality of reference optical spectral distributions, each of which is associated with a different person, whereby a determination is made whether the individual is one of a set of persons.

35. (New) The system recited in claim 33 wherein the instructions for deriving and determining are executed for a single reference optical spectral distribution associated with a purported identity of the individual, whereby a determination is made whether the individual has the purported identity.

36. (New) The system recited in claim 33 wherein the mathematical operation comprises calculation of a difference between the response optical spectral distribution and the reference optical spectral distribution.

37. (New) The system recited in claim 33 wherein the mathematical operation comprises calculation of a ratio between the response optical spectral distribution and the reference optical spectral distribution.

38. (New) The system recited in claim 33 wherein the instructions for determining whether characteristics of the difference optical spectral distribution are consistent with the individual being a person associated with the reference optical spectral distribution comprise instructions for analyzing the difference optical spectral distribution with a database having a plurality of intra-person difference spectra for a person associated with the reference optical spectral distribution.

39. (New) The system recited in claim 33 wherein the instructions for determining whether characteristics of the difference optical spectral distribution are consistent with the individual being a person associated with the reference optical spectral distribution comprise instructions for analyzing the difference optical spectral distribution with a database having a plurality of inter-person difference spectra.

40. (New) The system recited in claim 33 wherein the instructions for determining whether characteristics of the difference optical spectral distribution are consistent with the individual being a person associated with the reference optical spectral distribution comprise instructions for analyzing the difference optical spectral distribution with a database having a plurality of intra-person and inter-person difference spectra.

41. (New) The system recited in claim 33 wherein the instructions for determining whether characteristics of the difference optical spectral distribution are consistent

with the individual being a person associated with the reference optical spectral distribution comprise instructions for performing a discriminant analysis to compare underlying spectral shapes of the difference optical spectral distribution with the reference optical spectral distribution.